



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,930	09/15/2003	Avraham Shekalim	08875.0005-01000	8392
21127	7590	11/15/2004	EXAMINER	
KUDIRKA & JOBSE, LLP ONE STATE STREET SUITE 800 BOSTON, MA 02109				LAMB, BRENDA A
		ART UNIT		PAPER NUMBER
		1734		

DATE MAILED: 11/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No. 10/661,930	Applicant(s) Shekaffim et al.
Examiner LrmB	Group Art Unit 1734

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

Responsive to communication(s) filed on 7/16/2004

This action is FINAL.

Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.

### Disposition of Claims

Claim(s) 1-48 is/are pending in the application.

Of the above claim(s) 37-48 is/are withdrawn from consideration.

Claim(s) \_\_\_\_\_ is/are allowed.

Claim(s) 1-15, 19-23 and 27-36 is/are rejected.

Claim(s) 16-18 and 24-36 is/are objected to.

Claim(s) \_\_\_\_\_ are subject to restriction or election requirement

### Application Papers

The proposed drawing correction, filed on \_\_\_\_\_ is  approved  disapproved.

The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner

The specification is objected to by the Examiner.

The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. § 119 (a)-(d)

Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)-(d).

All  Some\*  None of the:

Certified copies of the priority documents have been received.

Certified copies of the priority documents have been received in Application No. \_\_\_\_\_

Copies of the certified copies of the priority documents have been received  
in this national stage application from the International Bureau (PCT Rule 17.2(a))

\*Certified copies not received: \_\_\_\_\_

### Attachment(s)

Information Disclosure Statement(s), PTO-1449, Paper No(s). 7/16/2004  Interview Summary, PTO-413

Notice of Reference(s) Cited, PTO-892  Notice of Informal Patent Application, PTO-152

Notice of Draftsperson's Patent Drawing Review, PTO-948  Other \_\_\_\_\_

## Office Action Summary

Newly submitted claims 37-48 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: originally filed claims are directed a coating device requiring the following combination of elements: at least one object holding element; at least one optical scanning device; at least one coating applicator; at least fluid delivery system; a processing unit responsive to at least to the output from the at least one optical scanning device to selectively activate the coating applicator; a drive system to provide relative motion between surface of the object being coating and the coating applicator and between surface of the object being coating and the at least one optical scanning device or between the surface of the object being coating and the applicator base arranged within an application chamber.

Newly presented claims claim 37-48 does not require a object-holding element; fluid delivery system and drive system for providing relative motion between surface of the object being coating and the coating applicator and between surface of the object being coating and the at least one optical scanning or between surface of the object being coating and the applicator base arranged within an application chamber as set in the originally filed claims of coating device combination set forth in claims 1-36 and therefore apparatus of newly presented claims 37-48 can be used to perform coating wherein object is supported and manipulated by an operator's hand. The combination of claims 1-36 as claimed does not require the particulars of the subcombination as claimed because it does not require the processing unit activate the at least one material applicator when the output indicates the at least one material applicator is aligned with substantially only a first surface type and de-activate the at least one

material applicator when the output indicates the at least one material applicator is not aligned with substantially only a first surface type.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 37-48 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 2, 5-9 and 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Castro et al 6,395,326.

Castro et al teaches the design of an apparatus for applying a patterned coating to a substrate which is comprised of the following structural elements: at least object holding element 14 to hold the object while the coating is applied thereto; at least optical scanning device such that coating may be applied thereto; at least optical scanning device such that coating may be applied to select surfaces of the substrate (column 5 lines 1-10, column 10 lines 8-53); at least one coating applicator 26 to coat at least a portion of the object; at least one fluid delivery system which includes reservoir 24; a processing unit which includes CPU 20 to selectively activate the coating applicator; and drive system configured to provide relative motion between the substrate and applicator. Castro et al processing unit as discussed at column 10 line 7 to column 11 line 5 is obviously capable of applying coating substantially only to surfaces of the first type if desired via information fed from video camera which captures specific pattern or features of the stent and transmits these images a frame grabber 48 which converts images into a format accepted by the vision software 50 which converts it into feed back understood by control systems which control deposition pattern on the stent. The recitation that coating is applied to an object having a first type of surface which is optically distinguishable from the second type of surface is intended end use. It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Ex parte Masham, 2 USPQ2d 1647 (1987). Castro et al is capable of the end use of coating an object having a first type of surface which is optically distinguishable from the second type of surface since

the coating system controlled by control systems as discussed above is obviously capable of applying to selected areas such as the first type of surface on the stent. Thus claim 1 is obvious over Castro et al. With respect to claim 2, Castro et al in Figures 2B and 6B indicate rotating by the holder assembly 14 via holder motion control system 16 (see column 8 lines 40-43). With respect to claim 5, Castro et al teaches at least one coating applicator includes a pressure-pulse actuated drop-ejection system with at least one nozzle (see column 8 line 54 to column 9 line 37). With respect to claims 6-8, Castro et al teaches that the spatial relationship between the coating applicator and object is variable via holder motion control system 16 and dispenser motion control system 32. The Castro et al processing unit changes operational parameters of the coating device to apply the desired pattern on the substrate. With respect to claim 9, Castro et al in Figure 4A shows that the dispenser 22 is coupled to the optical scanning device which includes elements 46, 44. Castro et al teaches that the dispenser 22 is displaceable relative to the object-holding element. Castro et al fails to teach that the optical scanning device and coating applicator are deployed on a displaceable applicator base. However, it would have been obvious to modify the Castro et al apparatus such that the optical scanning device and coating applicator are deployed on a displaceable applicator base such as the driving component 34 in order to decrease the compactness or size requirements of the apparatus.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Castro et al 6,395,326 in view of Zhong et al.

Castro et al is applied for the reasons noted above. Castro et al teaches at column 19 lines 4-15 applying a second composition, which is different than the first composition. Castro et al fails to disclose the fluid delivery systems are equal in number to the plurality of coating applicators. However, if one desires to apply two different compositions, it would have been obvious to modify the Castro et al apparatus by providing separate applicators in communication with separate fluid delivery systems since Zhong et al teaches an ink jet printing head having plural applicators wherein each applicator, a group or set of nozzles, is in fluid communication with its respective fluid delivery system or source for the obvious advantage of greater control of the coating process (see Zhong et al at column 6 line 7 to column 7 line 3).

Claims 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Castro et al 6,395,326 in view of Brewer et al.

Castro et al is applied for the reasons noted above. Castro et al shows the object-holding element supports the objects at two different regions along a length of the object Castro et al fails to teach the object holding element is implemented as two object holding elements. However, it would have been obvious to modify the Castro et al apparatus by using an end effector of a robotic arm having a two object-holding elements 22, 24 to simultaneously support two different regions along the length of the object such as taught by Brewer et al for the obvious reason to enable one to firmly grip or hold the object. With respect to claim 4, Castro et al shows that the two object-holding elements are mechanically linked via actuator 26.

Claims 13-15, 19-23, 27, 30, 31 and 33-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Castro et al 6,395,326 in view of Smith et al.

Castro et al is applied for the reasons noted above. Castro et al fails to teach elements of the claimed coating apparatus, specifically the recited elements-object-holding element, coating applicator, optical scanning device, drive system and fluid delivery system are deployed within a housing that includes an application compartment. However, it would have been obvious to modify the Castro et al apparatus by providing the above cited elements within a housing that include a compartment since in treating and coating medical devices it is known to enclose the coating apparatus within housing which includes a compartment such as taught by Smith et al for the taught advantage of minimizing risk of contamination of the medical device and minimizing exposure of the operator to treating chemicals used in the coating process. Thus With respect to claim 14, Smith et al shows that housing for his coating apparatus includes a base section and detachable section or hood 510 as shown in figure 3. With respect to claim 19, Smith et al uses using a filtering system to help create an environment within the housing which is clean or substantially sterile. With respect to claim 15, Smith et al shows in figure 3 that portions of the hood 510 or detachable section and base section together define a compartment within the housing. With respect to claim 20, Smith et al shows the coating apparatus and fluid delivery system or pump within housing of the compartment of the housing which is removable. With respect to claim 21, the same rejection to claim 13 are applied here. Further, Smith et al shows that the applicator and object holding device are located within a

compartment of the housing. Smith et al shows elements of the coating apparatus are mounted on displaceable bases. Therefore, it would have been given the modified Castro et al apparatus obvious to arrange the Castro et al coating applicator and optical scanning device which are coupled to one another as discussed above on a displaceable base since Smith et al shows elements of the coating apparatus are arranged on a displaceable base or detachable base for the obvious reason to facilitate maintenance. With respect to claim 22, the same rejection applied to claim 14 is applied here. With respect to claim 23, the same rejection applied to claim 15 is applied here. With respect to claim 27, the same rejection applied to claim 2 is applied here. With respect to claim 30, the same rejection applied to claim 5 is applied here. With respect to claim 33, the same rejection applied to claim 20 is used here. Smith et al show in his figures that elements of the compartment are detachably connected to one another to facilitate maintenance. With respect to claim 34, the same rejection applied to claims 6-7 is applied here. With respect to claim 31, it would have been obvious given the modifications of the Castro et al as discussed above to position the at least one fluid delivery system within the base housing since Smith et al shows elements of the coating apparatus are arranged within housing for the taught advantage of minimizing risk of contamination of the medical device and minimizing exposure of the operator to treating chemicals used in the coating process. With respect to claim 35, the same rejection applied to claim 11 is used here. With respect to claim 36, the same rejection applied to claim 12 is used here.

Claims 28-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Castro et al 6,395,326 in view of Brewer et al and Smith et al.

The same rejection applied to claims 4-5 is applied here.

Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Castro et al 6,395,326 in view of Brewer et al and Zhong et al.

The same rejection applied to claim 10 is applied here.

Applicant's arguments filed on 7/16/2004 have been fully considered but they are not persuasive.

Applicant's argument that Castro fails to teach applying coating substantially only to surfaces of the first type is found to be non-persuasive. Castro et al as discussed above teaches at column 10 lines 8 to column 11 line 5 a video camera captures an image of a particular feature of the stent and the vision software captures an image of a particular feature of the stent by the camera is accepted by a frame grabber hardware and converts into a format which can be utilized by the vision software which converts it into information useful by the delivery control system. Therefore, it would have been obvious that Castro processing unit is capable of activity the applicator to apply it to only surface of the first type.

Applicant's argument that Castro et al fails to disclose the object being coated is a catheter that includes a balloon portion on which a stent is employed and the stent is a surface of the first type and the balloon is a surface of the second type is found to be non-persuasive. It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed

apparatus from a prior art apparatus satisfying the claimed structural limitations. Ex parte Masham, 2 USPQ2d 1647 (1987). As discussed above, Castro et al is capable of the end use of coating an object having a first type of surface which is optically distinguishable from the second type of surface since the applicator is obviously capable of applying coating to selected areas such as the first type of surface on the stent as a result of control systems which direct as movement of the applicator and/or holder assembly for the object being coated and/or delivery control system for the coating.

Claims 16-18 and 24-26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brenda Lamb whose telephone number is (571) 272-1231. The examiner can normally be reached on Monday and Wednesday thru Friday with alternate Tuesdays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Fiorilla can be reached on (571) 272-1187. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Brenda A. Lamb/LR  
October 28, 2004

*Brenda A. Lamb*  
BRENDA A. LAMB  
PRIMARY EXAMINER